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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,864	05/27/2005	Pal G. Bergan	P18684USPC	4637
29078	7590	06/05/2008		
CHRISTIAN D. ABEL ONSAGERS AS POSTBOKS 6963 ST. OLAVS PLASS NORWAY, N-0130 NORWAY			EXAMINER NGUYEN, CHI Q	
			ART UNIT 3635	PAPER NUMBER
			MAIL DATE 06/05/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/536,864	Applicant(s) BERGAN, PAL G.	
	Examiner CHI Q. NGUYEN	Art Unit 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 10-17, 22-25 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 18-21, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/6/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to applicant's patent application filed on 5/27/2005.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 9/6/2005 is being considered by the examiner.

Specification

The disclosure is objected to because of the following informalities: headings are missing.

Appropriate correction is required.

The priority is missing. Appropriate correction is required.

Claim Objections

Claims 10-17, 22-25 and 28 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims. See MPEP § 608.01(n).

Accordingly, the claims 10-17, 22-25, and 28 not been further treated on the merits.

Claims 1, 3-9 are objected to because of the following informalities: claim 1, line 1, a citation "the whole or part(s) does not have antecedent basis. Appropriate correction is required.

Claims 3-4, a citation "the bonding" does not have antecedent basis. Correction is required.

Claim 4, a citation "the surface" does not have antecedent basis. Correction is required.

Claim 6, a citation "the concrete layer's ductility" does not have antecedent basis.
Correction is required.

Claims 7-9 depending upon the objected claim 1 are also objected.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9, 18-21, and 26-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Regarding claims 1 and 2, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 1-2, the phrase "etc" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 1-2, a citation "where the concrete has weight of less than for normal concrete, and less than 1200kg/m³, wherein the layered structure is dimensioned as if the concrete layer in the structure carries essentially no tension but is

carrying most compressive forces and support the metal sheets” in not understood.

Depending claims 3-9 are also rejected since they depend upon the rejected claims 1-2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

As best understood, claims 1-9, 18-21 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 6,256,957 to Kelly.

Claims 1-2, 18, 19:

Kelly discloses a layered structure including two substantially parallel metal sheets (col. 2, lines 16-17) with a concrete layer 30 in between, where the layered structure is dimensioned as if the concrete layer in the structure carries essentially no tension but is carrying most compressive forces and support the metal sheets. Kelly discloses the basic structures as stated but does not expressly disclose wherein the concrete density significantly less than that of normal concrete, and less than about 1200kg/m³. However, this feature would have been a matter of obvious design choice to one of ordinary skill in the art at the time the invention was made to have such a specific range for concrete density for desirable application. Furthermore, applicant has not disclosed the criticality of this feature.

Claim 3:

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Wherein the metal sheets on the surface faced towards the concrete layer comprises means 28 to increase the bonding or connecting properties between the metal sheets and the concrete layer.

Claim 4:

Wherein the means to increase the bonding properties are an increased roughness in the surface of the metal sheets, or an added adhesive layer or dowels' or a combination of these (col. 3, lines 2-3).

Claim 5:

Wherein the dowels 48 reaches a substantial distance into the concrete layer, and at most to the metal sheet on the opposite side of the layered structure (Fig. 5).

Claim 6:

Wherein there in the concrete layer in the layered structure are added fibres to enhance the concrete layer's ductility, reduction of crack openings, and capability for carrying tension forces (Fig. 5).

Claim 7:

Wherein there between the two metal sheets is at least one connector 50.

Claim 8:

Wherein the connector comprises a point connection (see Fig. 9).

Claim 9:

Wherein the connector comprises girders in at least one direction (Fig. 9).

Claim 20:

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Wherein making before adding the concrete at least one aperture (see Fig. 1) in the proximity of the vertical highest portion of the void to facilitate evacuation of air and for determining when the void has been fully grouted, adding concrete to the void through at least one other access to the void.

Claim 21:

Wherein plate elements (Fig. 6) are attached to both sides of the existing structure to form voids.

Claim 26:

Kelly discloses an improved corrugated structure (Figs. 8-10) with alternating mainly parallel ridges 15 and grooves 20 (Figs. 8-10), wherein it comprises on one or both sides at least one plate element, attached to the corrugated plate so that the plate element covers at least one groove, and forms a void, which void is filled with a concrete 30. Kelly discloses the basic structures as stated but does not expressly disclose wherein the concrete density significantly less than that of normal concrete, and less than about 1200kg/m³. However, this feature would have been a matter of obvious design choice to one of ordinary skill in the art at the time the invention was made to have such a specific range for concrete density for desirable application. Furthermore, applicant has not disclosed the criticality of this feature.

Claim 27:

Wherein all grooves on at least one side are covered by plate elements, thereby forming a smooth surface (Figs. 9-10).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Chi Q. Nguyen whose telephone number is (571) 272-6847. The examiner can normally be reached on Monday-Friday from 7:30 am-4:00 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached at (571) 272-6777.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairdirect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197.

/C. Q. N./
Examiner, Art Unit 3635

/Jeanette E Chapman/
Primary Examiner, Art Unit 3633